

# Attachment 1

R-586-4-1-3

DATE REPORT ACCEPTED

4/24/91

DISPOSITION

HRS SCORE

SAM SIGNATURE

*Genad Townsend*

STATES COPY

FINAL REPORT

SCREENING SITE INSPECTION, PHASE II  
ALABAMA POWER COMPANY - BARRY STEAM PLANT  
BUCKS, MOBILE COUNTY, ALABAMA  
EPA ID #: ALD082148800

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FOR THE

WASTE MANAGEMENT DIVISION  
U.S. ENVIRONMENTAL PROTECTION AGENCY

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NUS CORPORATION  
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## EXECUTIVE SUMMARY

The Barry Steam Plant is located in a rural setting in Mobile County, Alabama, approximately 0.75 mile east of Bucks. Under the ownership of the Alabama Power Company, the currently active steam power plant has been in operation since 1952. Two waste disposal areas are located at the facility, a 5- to 8-acre landfill and a 625-acre ash pond. The 5- to 8-acre landfill has received concrete, metal, glass, and other building materials dating from the construction of the plant through the present time. Under National Pollution Discharge Elimination System (NPDES) Permit no. ALD0002879, Barry Steam Plant has discharged fly ash waste, as well as condenser cooling water waste, into the 625-acre ash pond. In the past, metal-cleaning waste and sewage from the plant were both deposited into the ash pond. Both the landfill and the ash pond continue to accept wastes.

The Alabama Power Company-Barry Steam Plant, is located in the Atlantic Coastal Plain Physiographic Province and the Gulf Coastal Plain groundwater region. This region is characterized by thick, gently sloping layers of unconsolidated sediments. The two underlying aquifers, the alluvial coastal aquifer and the Pliocene-Miocene aquifer, are interconnected. Near the facility, wells completed in the alluvial-coastal aquifer have an average depth of 95 feet below land surface (bls). Recharge to the aquifer system is through infiltration of rainwater.

The groundwater pathway was determined to be one of the primary concerns for this site. The majority of the residences within a 4-mile radius obtain drinking water from the LeMoyne and Mt. Vernon water systems, both of which depend on municipal wells located outside of the 4-mile radius. There are 32 private wells within a 3-mile radius, and 43 within a 4-mile radius. Wetlands and fisheries, another primary concern, could be impacted by the migration of contaminants off site. The surface water pathway is also of concern due to recreational activities, including sport fishing, along the Mobile River. Employees at the Barry Steam Plant could potentially be at risk through exposure to the onsite pathway.

Seventeen environmental samples were collected during the field investigation associated with this study. Several inorganic constituents were detected significantly above background. Arsenic was found in groundwater, surface and subsurface soil, and sediment samples in amounts up to 80 times background. The presence of these inorganic constituents can be traced to coal, the fuel for the power plant, which contains many metallic elements like beryllium, mercury, and arsenic. These metallic elements, which are not readily combustible, remain in higher concentrations in the fly ash waste. Other metallic elements found in high concentrations in the samples, such as lead and

chromium, can be traced to the metal-cleaning waste which may have been discharged into the ash pond prior to 1980.

The facility is located in an extremely rural area with a population of 496 within a 4-mile radius. Private wells constitute the only aquifer use in the area; approximately 117 residences receive water from municipal systems whose wells are located outside of the target distance. However, the surface water pathway supports recreational fishing and sensitive environments, including wetlands and critical habitats. Additionally, the concentration of contaminants is high in and around the ash pond area and in the cool-down canal which drains into the Mobile River. Therefore, based upon high target values for the surface water pathway, FIT 4 recommends that Phase I of a Listing Site Inspection be initiated for Alabama Power Company - Barry Steam Plant.

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Omitted